

INTERNATIONAL HARMONIZED RESEARCH ACTIVITIES (IHRA) STATUS REPORT OF THE PEDESTRIAN SAFETY WORKING GROUP

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The ESV/IHRA Project was introduced at the ESV held in Melbourne, May 1996. Also at the Meeting, the leading country for each project was announced, whereby Japan was assigned the leading country for the research item of PEDESTRIAN SAFETY. Japan, in response, requested ESV member countries to select their experts in pedestrian safety, and has been carrying out the assigned work with the selected experts assuming the central research role. Below is a summary of these activities.

1. Task Assigned to IHRA/Pedestrian Safety

The task of IHRA/Pedestrian Safety is to propose harmonized test procedures and its requirements which will contribute to a reduction of pedestrian injuries and fatalities in accidents between passenger cars and pedestrians (adults and children) while reflecting the latest accident data of ESV member countries.

2. Target Timing

The above proposal shall be reported to the 17th ESV Meeting scheduled for 2001.

3. Method of Realization

The experts selected from ESV member countries hold meetings to discuss, formulate and finalize test procedures and its requirements through consensus among the experts.

4. Research Resources

The experts from ESV member countries basically utilize the useful results of past studies, and when additional studies are necessary, they define the areas requiring the additional studies which shall be apportioned to ESV member countries.

5. Research Steps

- (1) Selection of experts.
- (2) Formulation of a research master plan.
- (3) Execution of accident survey in ESV member countries.

- (4) Comprehensive analysis based on the accident data of ESV member countries.
- (5) Ranking of priorities for the development of test procedures in accordance with the results of comprehensive analysis.
- (6) Identification of useful research results (biomechanics, test procedures, testing tools, etc.) and research items requiring additional research efforts, prioritization of work, and apportionment of work to ESV member countries.
- (7) Development of test procedures and its requirements.
- (8) Evaluation of the developed test procedures and its requirements, including cost evaluation.
- (9) Finalization of the test procedures and its requirements.

At present, IHRA/Pedestrian Safety is in Step 5.

6. IHRA/Pedestrian Safety Experts Meeting

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| 1997.7.15-16 | 1st Experts Meeting Tokyo, Japan |
| 1998.3.3-5 | 2nd Experts Meeting Washington D.C., USA |
| 1998.9.16-18 | 3rd Experts Meeting Europe |

7. Matters Decided at Experts Meetings

- Experts Meetings shall be held twice a year, in principle.
- A research master plan was formulated.
- It is not possible to develop test procedures using pedestrian dummies by the 2001 target year, due to a long time needed to develop such dummies. Consequently, the component test employed by ISO and EEVC shall be employed.
- Analysis was conducted on the basis of the first accident analysis data provided by the U.S., Europe and Japan. In results:
Higher priorities -
 - a. Head / bonnet (adults and children)
 - b. Leg / bumper.

The above a. and b. were decided to be the combinations for which test procedures shall be developed.

- Notable characteristics of recent accidents:
 - a. A decrease in pelvis / bonnet accidents due to changes in the vehicle body shape.
 - b. An increase in the incidents of the adult's head colliding into the windshield glass.
- Accident data shall be rearranged using a unified format.
- An action list for future Meetings shall be produced, specifying subject matters for discussion, assigned countries, and related remarks.
- Although infrastructure and education are important in the reduction of accidents, the Expert Group shall only briefly touch upon these subjects in its final report, citing existing reports.
- The IHRA/Steering Committee has recommended the definition of passenger vehicles as those with a seating capacity of not more than 9 occupants and GVW of not more than 4,500 kg. The Expert Group shall finalize its research, analyzing accident data in accordance with this definition.
- This research shall be incorporated into the project schedule in order to verify the technical

compatibility of the automobile on the whole within the test procedures to be proposed and to avoid disharmony between these test procedures and other regulations.

8. Scheduled Activities

- Reexamination of accident analysis reports.
- Identification of the most accident-prone juvenile age group for the development of an impactor for children.
- Production of biomechanical injury risk curves.
 - Deciding of the cover ratio for vehicle collision speeds.
 - Deciding of an injury level target for the reduction of injuries and fatalities
- Identification, prioritization and apportionment of research work.
- Development of test procedures for two combinations: head / bonnet (adults and children) and leg / bumper.
- Discussion on possibilities of utilizing a computer simulation model.

9. IHRA/Pedestrian Safety Experts Member List

| Name | Title | Country |
|-----------------------------|-------------|-----------|
| Mr. Yoshiyuki Mizuno | Chairperson | JAPAN |
| Mr. Hiroshi Ishimaru | Secretariat | JAPAN |
| Mr. Manual Bartolo | Expert | USA |
| Dr. Francoise Brun-Cassan | Expert | EU |
| Mrs. Maria Dabrowska-Loranc | Expert | POLAND |
| Dr. Hirotoishi Ishikawa | Expert | JAPAN |
| Mr. Norbert Jahn | Expert | EU |
| Mr. E.G. Janssen | Expert | EU |
| Mr. Graham Lawrence | Expert | EU |
| Dr. Jack McLean | Expert | AUSTRALIA |
| Mr. Akira Sasaki | Expert | JAPAN |
| Dr. Roger Saul | Expert | USA |